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PTO/SB/01 (12-97)  
Approved for use through 9/30/00. OMB 0651-0032  
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</b>	<b>Attorney Docket Number</b>	
	<b>First Named Inventor</b>	Joseph R. Henrichs
	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	/
	<b>Filing Date</b>	07-20-99
	<b>Group Art Unit</b>	
<input checked="" type="checkbox"/> Declaration Submitted with Initial Filing	OR	<input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)
<b>Examiner Name</b>		

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**A VERTICAL CAVITY SURFACE EMITTING LASER THAT USES INTRACAVITY DEGENERATE FOUR WAVE MIXING TO PRODUCE PHASE-CONJUGATED AND DISTORTION FREE COLLIMATED LASER LIGHT**

the specification of which (Title of the Invention)

☒ is attached hereto  
OR  
☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International Application Number and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

(Page 1 of 2)

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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## DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☐ Customer Number

OR

☐ Registered practitioner(s) name/registration number listed below

Place Customer  
Number Bar Code  
Label here

Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label

OR ✕ Correspondence address below

Name	Joseph Reid Henrichs					
Address	641 Northeast Swann Circle					
Address						
City	Lee's Summit	State	Mo.	ZIP	64086	
Country	United States America	Telephone	(816) 524-5120		Fax	(816) 524-5120

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:

☐ A petition has been filed for this unsigned inventor

Given Name (first and middle (if any))				Family Name or Surname			
Joseph Reid				Henrichs			
Inventor's Signature						Date	07-20-99
Residence: City	Lee's Summit	State	Mo.	Country	United States	Citizenship	USA
Post Office Address	641 Northeast Swann Circle						
Post Office Address							
City	Lee's Summit	State	Missouri	ZIP	64086	Country	USA

☐ Additional inventors are being named on the \_\_\_\_\_ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

**STATEMENT CLAIMING SMALL ENTITY STATUS  
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Joseph R. Henrichs

Application or Patent No.: \_\_\_\_\_

Filed or Issued: 07-20-99

Title: A VERTICAL CAVITY SURFACE EMITTING LASER THAT USES INTRACAVITY DEGENERATE FOUR WAVE  
MIXING TO PRODUCE PHASE-CONJUGATED AND DISTORTION FREE COLLIMATED LASER LIGHT

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.  
☐ the application identified above.  
☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.  
☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Joseph R. Henrichs

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

Joseph R. Henrichs  
Signature of inventor

Signature of inventor

Signature of inventor

07-20-99  
Date

Date

Date

PATENT  
020402

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	:	
Henrichs	:	
Group Art Unit 2828	:	VERTICAL CAVITY SURFACE
Examiner Davie, James W.	:	EMITTING LASER THAT USES
Serial No. 09/357,685	:	INTRACAVITY DEGENERATE FOUR-
Filed: July 20, 1999	:	WAVE MIXING TO PRODUCE PHASE-
	:	CONJUGATED AND DISTORTION FREE
	:	COLLMATED LASER LIGHT

POWER OF ATTORNEY

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

I, Joseph Reid Henrichs, applicant/inventor for the above-identified patent application, hereby appoint the following as my attorney(s) or agent(s) to prosecute the application, and to transact all business in the United States Patent and Trademark Office connected therewith:

Roberto Capriotti	Reg. No. 46,599	Michael D. Lazzara,	Reg. No. 41,142
Maria Comninou	Reg. No. 44,626	Mark R. Leslie,	Reg. No. 36,360
George D. Dickos,	Reg. No. 30,048	Franklin B. Molin,	Reg. No. 37,397
Thomas J. Edgington,	Reg. No. 34,324	Robert A. Muha,	Reg. No. 44,249
Christine R. Ethridge,	Reg. No. 30,557	Donald R. Palladino	Reg. No. 46,976
Jesse A. Hirshman,	Reg. No. 40,016	Jonathan C. Parks,	Reg. No. 40,120
James M. Joyce,	Reg. No. 43,700	Bernard G. Pike	Reg. No. 46,993
Mark G. Knedoisen,	Reg. No. 42,747	Robert V. Racunas, Jr.	Reg. No. 43,027
William E. Kuss,	Reg. No. 41,919	David Schramm	Reg. No. 41,295
James R. Kyper,	Reg. No. 27,346	Robert D. Yeager	Reg. No. 25,047

Serial No. 09/357,685

I also enclose a copy of Form PTO/SB/122 (Change of Correspondence Address, Application), indicating that all future correspondence regarding the application be sent to:

Mark G. Knedeisen, Esq.  
Kirkpatrick & Lockhart, LLP  
Henry W. Oliver Building  
535 Smithfield Street  
Pittsburgh, PA 15222-2312

Tel. (412) 355-6342  
Fax (412) 355-6501

In addition, Applicant requests that the attorney's docket number for the application be changed to "020402."

Respectfully submitted,

  
Joseph Reid Henrichs

Date: July 22, 2002